Shelve with Standards publication

Alberta

VER AND LABOUR

Inspectional Services Division
Building Standards Branch

I.B.M. Building
10808 - 99 Avenue
Edmonton, Alberta, Canada
T5K 0G5

January 1, 1975

ANNOUNCEMENT

All individuals and companies involved in building design and construction in Alberta are advised that the 1975 National Building Code of Canada WILL NOT be adopted in Alberta before January 1, 1976.

The Alberta Building Regulations 1974 will remain in force in Alberta for a number of reasons.

- A further period of time is required for users to become familiar with the Alberta Building Regulations before revisions take place.

- A number of items which are omitted or inadequately covered by the National Building Code of Canada have to be covered by new sections.

- Conflicts between the Alberta Building Regulations and Regulations written under other Provincial legislation need to be resolved and the agreed requirement adopted by all government agencies.

When drafts of major revisions to the Alberta Building Regulations have been prepared, they will be made available to interested individuals and groups well in advance of adoption by the Province.

[Shelve with Standata publications]

Alberta

Dept. of MANPOWER AND LABOUR

Inspectional Services Division
Building Standards Branch

I.B.M. Building
10808 - 99 Avenue
Edmonton, Alberta, Canada
T5K 0G5

March 1, 1975

To Designers, Contractors and Owners
of Buildings in Alberta

In October 1974, the Building Standards Branch began to issue a continuing series of BULLETINS under the designation STANDATA.

These bulletins help all individuals and groups, who are involved in design and construction of buildings to be located in Alberta, understand the requirements of The Alberta Uniform Building Standards Act and the Alberta Building Regulations.

The bulletins are issued in several series:

		Number issued to date
AB -	Administrative Bulletins - Guides on the administration and enforcement of the Act and the Regulations.	6
CB -	Council Bulletins - To disseminate details of the Act and decisions of the Alberta Building Standards Council.	3
MB -	Material Bulletins - To guide regulations users in selection of materials and assemblies of materials which are acceptable under the Alberta Building Regulations.	1
RB -	Regulations Bulletins - Announcements of changes to the Alberta Building Regulations.	2
TB -	Technical Bulletins - Guides to assist in understanding specific details of the Act and Regulations.	5

...../2

In general, bulletins will be issued as the need is demonstrated. Comments and suggestions to help plan future bulletins will be appreciated.

If you wish to be on our mailing list for STANDATA please fill in and return the attached card. Unless requested back copies of STANDATA will not be mailed.

Alberta STANDATA

Dept. of MANPOWER AND LABOUR
Building Standards Branch
701 - 10808 - 99 Avenue
Edmonton, Alberta, T5K 0G5

AB - 1 APRIL 1974

STEEL BUILDINGS

Before permits are issued for buildings and other structures which are framed with structural steel or for pre-manufactured metal buildings it will be necessary to assure the authority issuing the building permit that the welding of components will be done by companies who are *fully* approved by the Canadian Welding Bureau.

At the time of application for a permit the applicant should name the fabricator or manufacturer and provide written proof that they have been *fully* approved by the Canadian Welding Bureau for all welding of the type to be undertaken on that specific structure. If the fabricator or manufacturer has not been appointed at the time of application for a permit an undertaking shall be given in writing that the name and necessary information will be supplied before fabrication is started.

Before permits are issued for buildings and other structures which are framed with structural steel or for pre-manufactured metal buildings it will be necessary to assure the authority issuing the building permit that the welding of components will be done by companies who are fully approved by the Canadian Welding Bureau.

At the time of application for a permit the applicant should name the fabricator or manufacturer and provide written proof that they have been fully approved by the Canadian Welding Bureau for all welding of the type to be undertaken on that specific structure. If the fabricator or manufacturer has not been appointed at the time of application for a permit an undertaking shall be given in writing that the name and necessary information will be supplied before fabrication is started.

Alberta
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STANDATA
AB - 2 OCTOBER 19[illegible]

THE ALBERTA UNIFORM BUILDING STANDARDS ACT
THE ALBERTA BUILDING REGULATIONS 1974

This bulletin is an introduction to The Alberta Uniform Building Standards Act and the Alberta Building Regulations 1974. The Act has applied since January 1974 and the Regulations since April 1974. In March 1974, 255 Municipalities, Improvement Districts and special areas were authorized to enforce the provisions of The Alberta Uniform Building Standards Act in their respective areas.

In those Municipalities where Building Inspectors had been appointed previously, these inspectors have been deemed to have been appointed under The Uniform Building Standards Act for the purposes of enforcing the Act and the Regulations.

The Regulations are primarily based upon the 1970 edition of the National Building Code of Canada together with all Errata and Change Series since 1970. The Regulations are in essence a safety code to provide appropriate building standards. Safety aspects include, but are not limited to, fire safety, structural safety, safety with regard to building services such as heating and ventilating, electrical, gas and elevators; and public health safety as found in the Plumbing Regulations and elsewhere in the Building Regulations.

No Building Inspector or other Official may accept less than the minimum standards in the Regulations, and no Building Inspector or other Official may ask for higher standards. Notwithstanding this statement, an owner may voluntarily provide higher standards for the building and its components if these conform to the Regulations.

If an owner considers that a ruling made by a Building Inspector is not valid, then the owner may institute an appeal to the Alberta Building Standards Council as set forth in the procedures for an appeal stated in the Act. (See also STANDATA CB-1.)

Alberta STANDATA

MANPOWER AND LABOUR
Building Standards Branch
701 - 10808 - 99 Avenue
Edmonton, Alberta, T5K 0G5

AB-3 JANUARY 1975

INFORMATION REQUIRED ON PLANS OR IN SPECIFICATIONS

For the assistance of a building inspector checking for conformance with the Alberta Building Regulations, the following information shall appear on plans submitted with an application for a *building permit*. Where appropriate, certain items may be shown in specification format.

All *building permit* applications shall include:

1. General

   (a) The dimensions of the *building*.
   (b) The proposed use and *occupancy* of each room or *floor area*.
   (c) The dimensions of the land, and adjacent *streets*, on which the *building* is, or is to be, situated.
   (d) The position, height and horizontal dimensions of all *buildings* on, or to be placed on, the land referred to in (c).
   (e) Details of the wall construction and *unprotected openings* in the *exposing building faces* of surrounding *buildings* located on the same property.
   (f) The location and details of *firewalls*.
   (g) The *building area* in square feet.
   (h) The degree of *fire separation* of *storeys*, shafts and special rooms or areas including the location and *fire-protection rating* of *closures* in *fire separations*.
   (i) The source of information for *fire-resistance ratings* of elements, and assemblies, of construction (to be indicated on large-scale sections).
   (j) Locations of *exits* and calculations for the widths of *means of egress*.

2. Structural

   (a) Plans submitted with the *building permit* application shall be signed by, or bear the seal of, the designer.

   (b) Plans submitted with the *building permit* application shall indicate in addition to those items specified in Sections of Part 4 applicable to a specific material

...../2

(i) the name and address of the person responsible for the structural design,
(ii) the dimensions, location and size of all structural members in sufficient detail to enable the design to be checked,
(iii) sufficient detail to enable the *dead loads* due to materials of construction incorporated in the *building* to be determined,
(iv) all intended uses and *occupancies*, and
(v) all effects and loads, other than *dead loads* used in the design of the structural members.

(c) The calculations and analysis made in the design of the structural members of a *building* shall be available upon request for inspection by the *authority having jurisdiction*.

(d) Plans submitted with the *building permit* application shall indicate

(i) the type and condition of the soil or rock sustaining the *foundation* loads, and
(ii) the *design bearing pressure* of the soils or the *design capacity* of the *foundation units*.

3. Heating, Ventilating and Air Conditioning

The information shown on plans for heating, ventilating and air conditioning systems shall be clear and legible and shall contain all details necessary for checking the installation, including the following:

(a) Name, type and location of *building*.
(b) Name of owner.
(c) Name of architect.
(d) Name of engineer or designer.
(e) North point on plans.
(f) Dimensions and height of all rooms.
(g) Intended use of all rooms.
(h) Detail or description of wall, roof, ceiling and floor construction including insulation.
(i) Detail or description of windows and outside doors, including size, weatherstripping, storm sash, sills, storm doors.
(j) Size and continuity of all pipes, ducts, shafts, *flues*, and fire dampers.
(k) Location, size, capacity and type of all principal units of equipment.
(l) Size, shape and height of *chimney* or *gas vent*.
(m) Size and location of combustion air and ventilation openings.
(n) Location and grade of required *fire separations*.

Alberta STANDATA

MANPOWER AND LABOUR
Building Standards Branch
701 - 10808 - 99 Avenue
Edmonton, Alberta, T5K 0G5

AB-4 JANUARY 1975

ARENAS

This bulletin applies to arenas, ice rinks and other indoor facilities classified as assembly occupancy Group A, Division 3.

The authority having jurisdiction will assume that these buildings will on occasion be used for trade shows, exhibition purposes and also for other functions unless notified in writing to the contrary by the building owner.

Seating

Sentence 3.3.2.6.(2) of the Alberta Building Regulations 1974 is

> "The centre-to-centre spacing between rows of bench-type seats shall be at least 30 in. (762 mm) where back rests are provided and at least 22 in. (559 mm) where back rests are not provided."

In continuance of previous requirements of the Alberta Theatres Branch, the minimum centre-to-centre spacing of bench-type seats shall be 30 in. whether or not back rests are provided.

Sentence 3.3.2.6.(4) of the Alberta Building Regulations is

> "Aisles shall be located so that there are not more than 7 seats with backs or 20 seats without backs between every seat and the nearest aisle."

In continuance of previous requirements of the Alberta Theatres Branch, the maximum centre-to-centre spacing of aisles shall be 40 feet.

Occupant Load

For exiting and washroom requirements of indoor arenas, ice rinks, and similar buildings, the occupant load shall be calculated in accordance with Subsection 3.1.14 of the Alberta Building Regulations 1974 and the following:

...../2

1. The contribution to occupant load of fixed chairs shall be 1 person per chair.

2. The contribution to occupant load of bench-type seats shall be 1 person for each 18" of seat. (3.3.2.6.(1) ABR 1974)

3. The contribution to occupant load of the arena floor, ice area, etc. shall be

   (a) 1 person per 30 sq.ft. where the only additional use is for the holding of trade shows and exhibitions;

   (b) 1 person per 10 sq.ft. for all other functions.

4. In waiting areas and areas adjacent to concessions, the occupant load shall be based upon 1 person per 4 sq.ft., and exits for this occupant load shall be provided from these areas. Washroom facilities additional to the requirements for the rest of the occupant load of the building are not necessary for the occupant load of waiting areas and areas adjacent to concessions.

Sprinklers

Your attention is directed to Sentence 3.1.2.1.(5) of the Alberta Building Regulations 1974 which requires sprinkler protection in arena-type buildings (Group A, Division 3) over 15,000 sq.ft. in building area intended for occasional use for trade shows and similar exhibition purposes.

Where the building is sprinklered one of clauses 3.2.2.17.(1).(c), 3.2.2.18.(1).(c) and 3.2.2.19.(1).(c) of the Alberta Building Regulations may apply if appropriate.

For the purpose of sprinker design arena-type buildings (Group A, Division 3) will be considered as ordinary hazard occupancies when using NFPA 13 - Standard for the Installation of Sprinkler Systems.

Alberta STANDATA

MANPOWER AND LABOUR
Building Standards Branch
701 - 10808 - 99 Avenue
Edmonton, Alberta, T5K 0G5

AB-5 FEBRUARY 1975

MINIMUM BUILDING SIZE

It has been brought to our attention that the Alberta Building Regulations 1974 have been interpreted as establishing minimum building sizes.

We issue this bulletin to inform you that there is nothing in The Alberta Uniform Building Standards Act or in the Alberta Building Regulations 1974 which establishes minimum building sizes. The jurisdiction in this area has been and presently remains with a local authority as permitted in the Provincial Planning Act.

The Alberta Building Regulations 1974 do stipulate minimum sizes of rooms for residential occupancies but it is not intended that these establish a minimum building size through the aggregation of minimum room sizes.

Alberta STANDATA

MANPOWER AND LABOUR
Building Standards Branch
701 - 10808 - 99 Avenue
Edmonton, Alberta, T5K 0G5

AB-6 FEBRUARY 1975

SUPPLY OF COMBUSTION AIR

Concern for life safety in buildings has arisen following a number of incidents attributed to inadequate supplies of combustion air for fuel-fired heating appliances.

The problem has increased as buildings become better sealed to combat heat losses arising from infiltration and exfiltration of air through walls and ceilings and around openings. With effective vapour barriers, sealed thermal windows and good weatherstripping, limited supplies of fresh air are available from infiltration.

Air is withdrawn from the building by one or all of the following: ventilation of combustion air from fuel-fired heating appliances, including fireplaces, exhausting of air from kitchens, bathrooms, clothes dryers and attic fans. As air is withdrawn, a negative pressure can be formed which draws the products of combustion back into the building instead of venting them. In sufficient concentration, these products of combustion are a life hazard which has been demonstrated through a number of incidents recorded in this province.

The following provincial regulations apply to supply of combustion air:

Alberta Building Regulations 1974

Sentence 6.2.3.1.(2) Heating, ventilating and air-conditioning systems shall be designed, constructed and installed to conform to good engineering practice.

Article 9.33.2.2 A space that contains a fuel-fired heating *appliance* shall have natural or mechanical means of supplying the required combustion air.

...../2

Gas Protection Act Regulations: C.S.A. Standard B149.1-1971

Article 4.2.1.5 Special Conditions Created by Mechanical Exhausting or Fireplaces. Where an appliance is installed such that the operation of exhaust fans, clothes dryers, kitchen ventilation systems, or fireplaces may create conditions of unsatisfactory combustion or venting, special provisions shall be made subject to the approval of the enforcing authority.

Appliance includes but is not limited to the following:

furnaces for heating air - gas, oil, coal, wood
clothes dryers - gas
stoves and ranges - gas, oil, coal, wood
fireplaces - gas, coal, wood
barbeques
lighting - gas
fuel-fired water heaters or boilers for heating systems or other hot water systems

Designers and builders must ensure that adequate supplies of combustion air are made available to spaces containing fuel-fired heating appliances. Particular attention must be paid to rooms and spaces containing fireplaces, furnaces and water heaters. In the majority of cases, an outdoor air intake opening into the cold air return system will be the minimum requirement in combination with adequately sized supply ducts to the spaces requiring combustion air.

Alberta STANDARD

MANPOWER AND LABOUR
Building Standards Branch
701 - 10808 - 99 Avenue
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CB-1 OCTOBER 1974

ALBERTA BUILDING STANDARDS COUNCIL

The Alberta Uniform Building Standards Act provides for the establishment of the Alberta Building Standards Council to:

(a) hear and consider appeals against the order of an inspector and by order confirm, revoke or vary the order of the inspector;

(b) advise the Minister on matters concerning the Act and the Regulations and any other matter concerning the use, construction or demolition of buildings;

(c) provide a liaison between the Minister and the Associate Committee on the National Building Code of the National Research Council, or any other persons or bodies interested in construction standards;

(d) perform any duties and functions assigned to it by the Minister.

Based upon recommendations submitted by principal associations involved in building construction, the following were appointed to the Alberta Building Standards Council:

Dr. A.O. Minsos (Chairman)	Mr. W. Turnbull
Mr. B. Alexander (Vice-Chairman)	Mr. L.C. Day
Mr. P. Epp. Jr.	Mr. E. Garrett
Mr. R. Scheibelhofer	Mr. P.L. Li
Mr. G. Whitehead	Mr. H. Collins

The Alberta Building Standards Council held its inaugural meeting on Friday, June 14, 1974. At the meeting, procedures were drafted for the handling of business which is brought before it. The procedure with regard to appeals is attached.

RULES AND PROCEDURES FOR APPEALS

1. On matters specific in the Regulations, the Council has no jurisdiction or authority to hear appeals.

2. Appeals will be heard on matters of interpretation of the Regulations and alternate methods of construction.

3. Members with interests or involvement in the order being appealed may not sit as a member of the Council hearing the appeal.

4. Council shall only consider appeals of which notice has been given in accordance with Section 9, Sub-Section (2) of The Uniform Building Standards Act which reads as follows:

   "An appeal made under subsection (1) must be commenced by serving notice of the appeal upon the Director within 15 days from the date that the owner of the building or the person responsible for the use, construction or demolition of the building is given the order of the inspector."

5. All members will be notified of an appeal even though three members constitute a quorum of the Council for hearing appeals.

6. A Secretary without voting privileges shall be present and responsible for maintaining records, correspondence and keeping records.

7. The appellant shall file with the Director of Building Standards a statement in writing in such detail as will enable the Council to consider the appeal; and addressed to the Council setting out:

   a. The nature and subject matter of the appeal.
   b. The address of the building affected by the appeal, and
   c. The sections of the Regulations applicable to the appeal.

8. The Council shall meet as often as necessary to conduct its work in an expeditious manner and shall meet as close as possible to the locality in which the appeal is raised.

9. The Council shall meet to hear an appeal within 30 calendar days after notice of the appeal has been filed.

10. The Council shall communicate its decision to the person making the appeal within 48 hours after the decision has been reached.

11. The appellant, or his representative and the designated inspector or his representative may attend the hearing and may make representations concerning the matter under appeal.

.....2

12. The Council in making its decision, may inform itself in any manner it deems appropriate and which it considers necessary to arrive at a decision.

13. The Council shall inform the appellant and the designated inspector of any additional information considered and shall provide an opportunity for either party to respond.

14. The decision of a majority of the members of the Council present at the hearing shall be the decision of the Council.

15. The Secretary shall notify the applicant and the designated inspector of the decision of the Council in writing and this may be considered a public record.

Alberta STANDATA

MANPOWER AND LABOUR
Building Standards Branch
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Edmonton, Alberta, T5K 0G5

CB-2 OCTOBER 1974

ALBERTA BUILDING STANDARDS COUNCIL RULINGS

The Alberta Building Standards Council has made the following decisions:

1. Gas Meters in Stairways and Other Exit Facilities:

   Gas meters shall not be located in stairways or other exit facilities. These are to be used only for exiting.

   Ref: A.B.R. Sentence 3.4.5.2(3) and A.B.R. Article 9.9.2.4.

2. Preserved Wood Foundations

   Preserved wood foundations are acceptable in Alberta subject to each foundation being designed and supervised by a professional engineer registered in the Province of Alberta Sealed and signed plans shall be submitted to the building authority at the time of application for a building permit. Materials used shall conform to CSA 080.15.

   Ref: A.B.R. Subsection 9.15.2

3. Structural Window Wall Panels

   If structural window wall panels do not conform to the requirements of Part 9 of the Alberta Building Regulations, their design must comply with Section 4.3 and must bear the seal and signature of a professional engineer registered in the Province of Alberta and shall be issued to the building authority at the time of application for a building permit.

   Ref: A.B.R. Part 9 and Section 4.3

Alberta STANDATA

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CB-3 JANUARY 1975

ALBERTA BUILDING STANDARDS COUNCIL RULINGS

Application of Cedar Shakes Using Staples as Fasteners

As a result of an appeal, the Alberta Building Standards Council has ruled that staples may be used, in lieu of nails, as fasteners for cedar shakes.

The staples shall have a minimum leg length of 2 in., be at least 16 gauge, have at least a 3/8 in. crown, and be corrosion resistant. The number of staples for each cedar shake shall be not less than the number of nails required by the Alberta Building Regulations 1974.

Ref: A.B.R. Article 9.27.2.3 and A.B.R. Subsection 9.27.10.

Alberta STANDATA

MANPOWER AND LABOUR
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Edmonton, Alberta, T5K 0G5

MB-1 FEBRUARY 1975

WARNING

EXPOSED RIGID FOAM PLASTICS

Alberta Manpower and Labour, through its Building Standards Branch of the Inspectional Services Division, is drafting and will be proposing regulations governing the use of exposed rigid foam plastics in building construction in order to limit the potential hazard to life safety.

The term rigid foam plastics covers a wide range of products which are produced from organic compounds. They are typified by but not limited to the following: phenolic foam, polyisocyanurate foam, polyurethane foam, polystyrene foam and ureaformaldehyde foam. Under appropriate fire conditions, these products ignite and burn. They have many different characteristics with regard to fire spread and products of combustion. In building construction, these products are encountered most often as wall and roof insulation and sometimes as interior finish.

The previous acceptance of these products in building construction was based upon a comparison of their behaviour under certain fire tests, such as ASTM-E84 and ASTM-D1692, with more established materials. From a number of actual fire situations, it has become apparent that the test procedures do not accurately reflect the real hazards.

In recent months, the Dominion Fire Commissioner, the Society of the Plastics Industry of Canada, associations representing specific plastics and a number of building authorities have issued warnings concerning the potential hazards of exposed rigid foam plastics and have recommended that these products NOT BE USED IN AN EXPOSED CONDITION IN BUILDINGS.

EXPOSED CONDITION is defined as exposure to air when a rigid foam plastic is used in the following locations:

...../2

1. On the surface of a wall, ceiling or floor in building areas as defined in the Alberta Building Regulations 1974.

2. Insulation of mechanical equipment such as machinery, appliances, piping, air handling equipment and inside or outside air ducts.

3. Material used within a ceiling space where any surface has less than the protection specified hereafter.

4. Inside crawl spaces.

5. Metal faced rigid foam plastic panels used in wall construction.

6. Rigid foam plastic insulation placed directly above a metal roof deck.

Rigid foam plastics would be acceptable in the locations specified in the preceding paragraph if they were protected by the application of an approved non-combustible material providing a thermal barrier with properties equivalent to a fire resistance rating of at least 15 minutes when tested in accordance with Section 16 of Underwriters' Laboratories of Canada Standard S101-1971. The following materials applied directly to the surface of the rigid foam plastic would be considered to provide the necessary thermal barrier: 3/4 in. thick plaster (cement or base coat), 5/8 in. minimum thickness gypsum board.

Rigid foam plastics would not be considered exposed if installed in the following manner:

1. Board or panels of rigid foam plastic underneath a concrete floor slab on grade without any space beneath the slab and without openings through the slab by which the plastic foam could be exposed.

2. External buried perimeter insulation installed below ground level on the outside of foundation walls and on the inside of foundation walls when there is no basement or crawl space beneath the floor slab.

3. Board or sheets in roof deck construction placed above a concrete slab.

4. Where there is a layer of durable insulation such as mineral board between boards or sheets and a metal roof deck.

5. Boards or sheets located between the inner and outer wythes of a cavity wall where both wythes are of masonry or concrete construction and the cavity is protected at all wall openings.

The draft regulations may further limit the use of these products in assembly, institutional and high-rise buildings.

Alberta STANDATA

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RB - 1 JANUARY 1975

MOBILE HOMES - O.C. 2031/74

On December 17, 1974, Order in Council O.C. 2031/74 was ordered and approved by the Lieutenant Governor of Alberta.

O.C. 2031/74 is a Regulation to amend the Alberta Regulations 73/74 and reads:-

A P P E N D I X

THE ALBERTA UNIFORM BUILDING STANDARDS ACT

REGULATIONS TO AMEND THE ALBERTA BUILDING REGULATIONS

1. The National Building Code of Canada 1970 issued by Associate Committee on the National Building Code, including amendments and revisions as published by the National Research Council, Ottawa, in "Errata" and Revisions to The National Building Code of Canada 1970, Change Series No. 1, 2 and 3, and filed as Alberta Regulations 73/74 is hereby amended.

2. Section 1.3, subsection 1.3.5 is amended by striking out the figure "1975" and by substituting therefor the figure "1976".

Thus subsection 1.3.5 now reads:-

> These regulations do not apply to factory construction of *mobile homes* constructed prior to January 1, 1976.

Alberta STANDATA

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RB-2

FEBRUARY 1975

NON-FLAMMABLE MEDICAL GAS PIPING SYSTEMS - O.C. 191/75

On February 6, 1975, Order in Council O.C. 191/75 was approved and ordered by the Lieutenant Governor of Alberta.

O.C. 191/75 is a Regulation to amend the Alberta Regulations 73/74 and reads:

A P P E N D I X

THE ALBERTA UNIFORM BUILDING STANDARDS ACT

REGULATIONS AMENDING THE ALBERTA BUILDING REGULATIONS

1. The National Building Code of Canada 1970 issued by Associate Committee on the National Building Code, including amendments and revisions as published by the National Research Council, Ottawa, in "Errata" and Revisions to The National Building Code of Canada 1970, Change Series No. 1, 2 and 3, and filed as Alberta Regulation 73/74 is hereby amended.

2. The "List of Standards" contained in Part 5 is amended with respect to "Standards Issued By The Canadian Standards Association" by adding at the end thereof the following:

Z32.3-1973 Non-flammable Medical Gas Piping Systems 6 and 9

3. Section 6.1, subsection 6.1.2, article 6.1.2.1, is amended by striking out clauses (e) and (f) and by substituting therefor the following:

(e) service shafts and chutes,
(f) fire alarm and fire extinguishing services, and
(g) non-flammable medical gas piping systems.

4. The following is added after section 6.7, subsection 6.7.4, article 6.7.4.2, sentence (5):

SECTION 6.8 NON-FLAMMABLE MEDICAL GAS PIPING SYSTEMS

SUBSECTION 6.8.1 GENERAL

6.8.1.1 The provisions of this section apply to all *buildings*.

...../2

6.8.1.2 The design, construction, installation, *alteration* and testing of every non-flammable medical gas piping system shall conform to CSA Standard Z32.3 - 1973 "Non-flammable Medical Gas Piping Systems".

SUBSECTION 6.8.2 INSPECTION AND TESTING

6.8.2.1 Upon completion of the installation of or the *alteration* to a non-flammable medical gas piping system in a new or existing *building*

(a) that non-flammable medical gas piping system must be inspected and tested by an independent testing organization in conformance with CSA Standard Z32.3 - 1973, and
(b) a report shall be prepared by that independent testing organization indicating the results of the inspection made and testing performed in respect of that non-flammable medical gas piping system.

6.8.2.2 A non-flammable medical gas piping system shall not be used until the report made article 6.8.2.1 clause (b) has been

(a) certified by the person making the report that the non-flammable medical gas piping system that is the subject of the report conforms to all the provisions of CSA Standard Z32.3 - 1973, and
(b) in the case of a hospital, filed with and approved by the Director of Construction of the Alberta Hospitals Service Commission.

5. The "Table of Contents" contained in Part 9 is amended by adding below the words "Section 9.36 Garages and Carports...431" the words "Section 9.37 Non-flammable Medical Gas Piping Systems".

6. The following is added after section 9.36, subsection 9.36.5, article 9.36.5.3:

SECTION 9.37 NON-FLAMMABLE MEDICAL GAS PIPING SYSTEMS

SUBSECTION 9.37.1 GENERAL

9.37.1.1 Non-flammable medical gas piping systems in all *buildings* regulated by Part 9 shall meet the requirements set forth in section 6.8.

Alberta STANDATA
MANPOWER AND LABOUR
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TB-1 JANUARY 1975

BUILDING HEIGHT, BUILDING AREA, FLOOR AREA

This bulletin explains the terms building height, building area and floor area to help users of the Alberta Building Regulations 1974 apply these concepts correctly.

1. Building Height

(a) Definitions from the Alberta Building Regulations 1974.

- *Building Height* (in *storeys*) means the number of *storeys* contained between the roof and the floor of the *first storey*.
- *First Storey* means the *storey* with its floor closest to *grade* and having its ceiling more than 6 feet above *grade*.
- *Grade* (as applying to the determination of *building height*) means the average level of finished ground adjoining a *building* at all exterior walls, as determined by the *authority having jurisdiction*.

(b) Figures 1 and 2 illustrate two apparently similar *buildings*. Following the definitions, Figure 1 shows a three *storey building* with a basement whereas Figure 2 shows a two *storey building* with two basement levels (*storeys*).

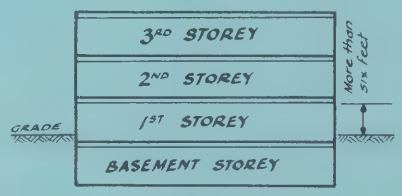


FIGURE 1.

(c) When a drop ceiling is involved, the critical dimension of 6 feet is measured from *grade* to the undersurface of the drop ceiling.

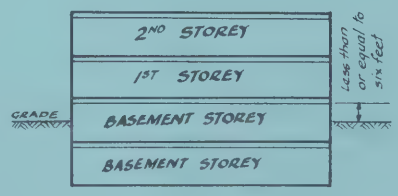


FIGURE 2.

...../2

(d) There are certain exceptions that do not add to the *building height* in *storeys*, i.e. *mezzanines*, galleries, etc., when they conform to Article 3.2.1.2.

(e) A crawl space does not add to the *building height*. Care should be taken to make sure the space conforms to the definition in sentence 3.2.2.3.(1).

(f) Further reference to Figures 1 and 2 shows the *buildings* extend more than one *storey* below *grade* and the requirements of sentence 3.2.2.8.(2) apply. Figure 3 shows a *building* that extends not more than one *storey* below *grade*.

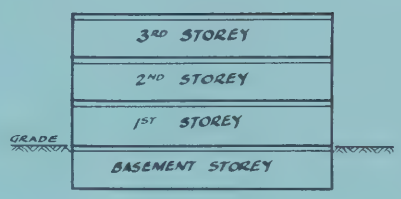


FIGURE 3.

2. Building Area

Definition from the Alberta Building Regulations 1974.

- *Building Area* means the greatest horizontal area of a *building* above *grade* within the outside surface of exterior walls, or within the outside surface of exterior walls and the centre line of *firewalls*.

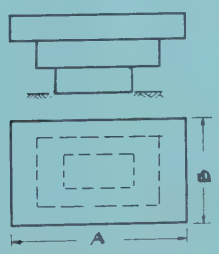


FIGURE 4.

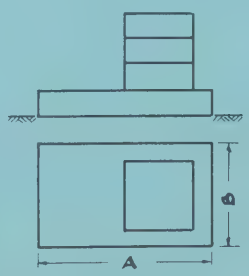


FIGURE 5.

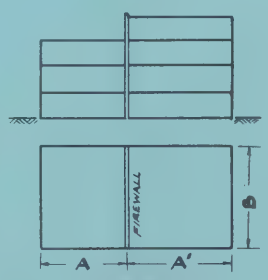


FIGURE 6.

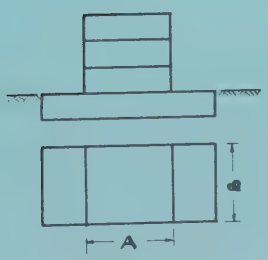


FIGURE 7.

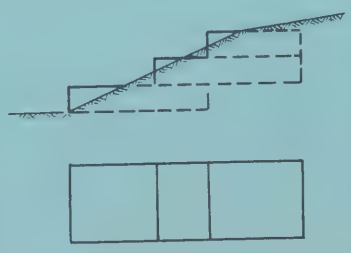


FIGURE 8.

shows grade.

Building Area for figures 4 to 7 is A × B or A' × B.

Figures 4, 5, 6, 7 and 8 illustrate *building area*. Figures 4, 5 and 6 are self-evident. In figure 7, the section of the *building* above *grade* has a *building area* A x B; for the section of the *building* below *grade*, apply Article 3.2.2.8 of the Alberta Building Regulations 1974.

In figure 8, there would be no *building area* as the *building* is deemed to be completely below *grade*. Apply Article 3.2.2.8 of the Alberta Building Regulations 1974.

3. Floor Area

Definition from the Alberta Building Regulations 1974.

- *Floor area* means the space on any *storey* of a *building* between exterior walls and required *firewalls*, including the space occupied by interior walls and *partitions* but not including *exits* and *vertical service spaces* that pierce the *storey*.

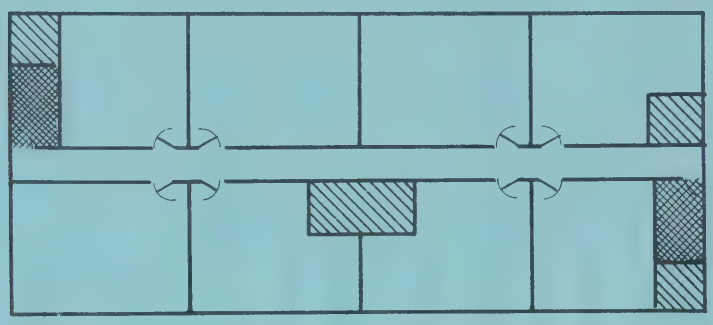


FIGURE 9.

These items are not included in Floor Area.

Exits.

Vertical service spaces, including shafts for building services, elevators, refuse and linen chutes.

NOTE: check Regulations for fire separations around the exits and service spaces.

Figure 9 illustrates the application of the definition *floor area* to a typical *building* plan. The areas which are omitted in the calculation of *floor area* are indicated. In most *buildings*, these omitted areas are separated from the *floor area* by walls and *partitions* with clearly defined requirements for *fire separation* and *fire resistance rating*. It should be noted that no other areas may be omitted from the *floor area* when it is used to determine *occupant load*, toilet fixture requirements, *exit* requirements, etc.

Alberta STANDATA

MANPOWER AND LABOUR
Building Standards Branch
701 - 10808 - 99 Avenue
Edmonton, Alberta, T5K 0G5

TB - 2 JANUARY 1975

SERVICE EQUIPMENT PENETRATING FIRE SEPARATIONS

This bulletin explains the limitations on the use of *combustible* pipes. Reference is made to articles 3.1.7.7 and 9.10.9.25 in the Alberta Building Regulations 1974.

3.1.7.7.(1) Every pipe, duct, electrical outlet box, and electric conduit or other similar service equipment, partially or wholly penetrating through a *fire separation*, shall be of *noncombustible* materials unless such service equipment has been incorporated in an assembly at the time of testing in conformance with Sentence 3.1.5.1.(1).

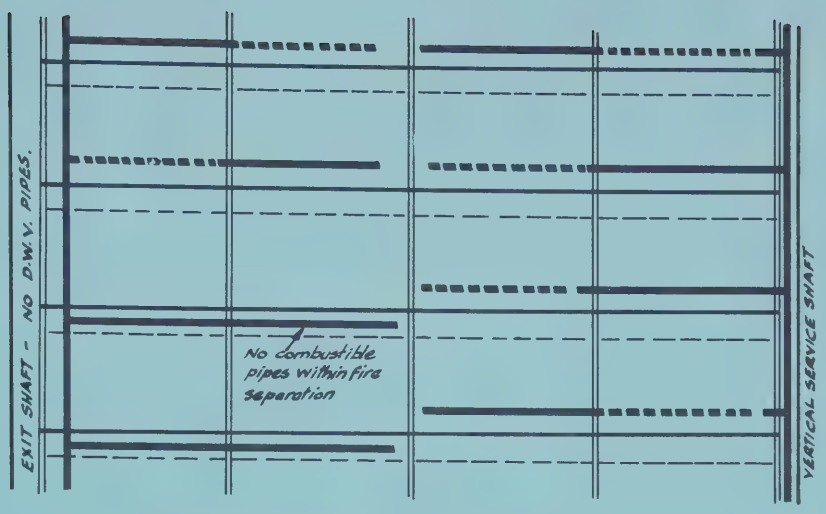
(2) *Combustible* drain, waste and vent pipe shall not be used in a system within a *building* where part of the system passes through or is located within a required *fire separation*, except where the *combustible* portions of the system are located entirely on one side of the *fire separation*, but in no case shall such pipe be located within a vertical shaft.

9.10.9.25 *Combustible* drain, waste and vent piping shall not be used in a *plumbing system* within a *building* where part of the system is located within or passes through a *fire separation*, except that where drain, waste and vent piping penetrates through a vertical *fire separation* the piping one side of the separation may be *combustible*, provided the *combustible* piping is not located in a vertical shaft or in a *fire separation*.

Item 2.5.6.(3) of the Alberta Regulations governing Plumbing and Drainage (which are referenced in Part 7 of the Alberta Building Regulations 1974) reads:

> "Combustible drain, waste and vent piping shall not be used in a plumbing system within a building where part of the system is located within or passes through a fire separation, except that where drain, waste or vent piping penetrates through a vertical fire separation, the piping on one side of the separation may be combustible, provided the combustible piping is not located in a vertical shaft or in a fire separation."

...../2



VERTICAL SECTION OF BUILDING

Noncombustible drain, waste and vent pipe.
Combustible drain, waste and vent pipe.
Required Fire Separation
Membrane protected floor-ceiling assembly.

The diagram shows the intent of the regulations with regard to combustible drain, waste and vent piping.

1. Drain, waste and vent pipes shall not be located in exit shafts.

2. All piping in a vertical service shaft shall be non-combustible.

3. Where a part of a plumbing system penetrates a horizontal fire separation (i.e. floor/ceiling assembly) all vertical elements of the plumbing system shall be non-combustible.

4. The part of a plumbing system penetrating or placed within any fire separation shall be non-combustible.

5. Where combustible drain, waste or vent piping is used within a fire compartment the drain, waste or vent piping in the next fire compartment shall be non-combustible.

6. Where a building contains no fire separations, i.e. a single family residence, combustible drain, waste and vent piping may be used without the above restrictions.

7. To ensure conformance with the regulations, all fire separations shall be clearly shown on plans prepared for plumbing systems.

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TB-3 FEBRUARY 1975

PART 3 OR PART 9?

This bulletin will help designers and those checking plans to determine whether a building is governed by Part 3 or Part 9 of the Alberta Building Regulations 1974.

The chart outlines a systematic method of treating the characteristics of a building which determine whether Part 3 or Part 9 should be used.

References in the chart are either to the Alberta Building Regulations 1974 (ABR); or the Standata Bulletin TB-1 issued January 1975.

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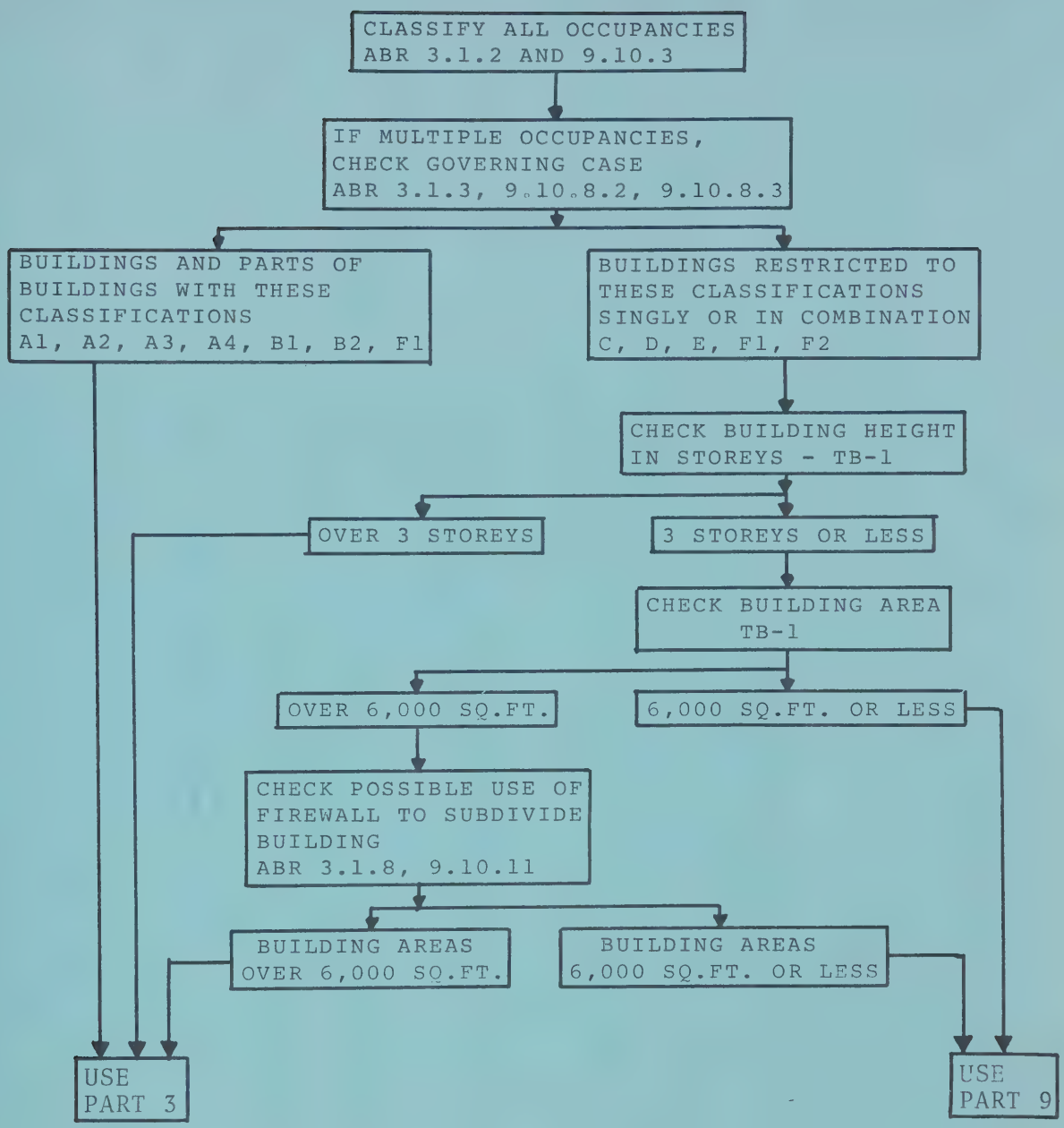
CLASSIFY ALL OCCUPANCIES
ABR 3.1.2 AND 9.10.3
IF MULTIPLE OCCUPANCIES,
CHECK GOVERNING CASE
ABR 3.1.3, 9.10.8.2, 9.10.8.3
BUILDINGS AND PARTS OF
BUILDINGS WITH THESE
CLASSIFICATIONS
A1, A2, A3, A4, B1, B2, F1
BUILDINGS RESTRICTED TO
THESE CLASSIFICATIONS
SINGLY OR IN COMBINATION
C, D, E, F1, F2
CHECK BUILDING HEIGHT
IN STOREYS - TB-1
OVER 3 STOREYS
3 STOREYS OR LESS
CHECK BUILDING AREA
TB-1
OVER 6,000 SQ.FT.
6,000 SQ.FT. OR LESS
CHECK POSSIBLE USE OF
FIREWALL TO SUBDIVIDE
BUILDING
ABR 3.1.8, 9.10.11
BUILDING AREAS
OVER 6,000 SQ.FT.
BUILDING AREAS
6,000 SQ.FT. OR LESS
USE
PART 3
USE
PART 9

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TB-4 FEBRUARY 1975

CLOTHES DRYER VENTS

Sentence 6.2.4.11.(8) of the Alberta Building Regulations 1974 is:

> *"All clothes dryer vents shall be vented to the outside. Where dryers are collectively vented, a sheet metal duct shall be provided and a continuously operating fan positioned up stream from all outlets to positively exhaust all moisture and lint. Screens on this type of installation shall be deleted. Suitable access doors shall be installed for cleaning purposes. A dryer vent shall not be connected to any other exhaust system."*

The intended application of Sentence 6.2.4.11.(8) follows:

1. *All clothes dryer vents shall be vented to the outside. Suitable access doors shall be installed for cleaning purposes. A dryer vent shall not be connected to any other exhaust system.* These phrases apply to clothes dryer installations in all building classifications.

2. *Where dryers are collectively vented a sheet metal duct shall be provided and a continuously operating fan positioned up stream from all outlets to positively exhaust all moisture and lint. Screens on this type of installation shall be deleted.* These phrases apply to installations of clothes dryers in residential buildings where a shaft is used to vent more than one dryer. The sheet metal duct may be a continuous sheet metal liner or a separate duct within the shaft. The screen referred to is a birdscreen and is omitted to avoid the possibility of accumulating lint on the screen.

<u>Exiting</u> Area = 1,400 sq.ft.
Use Table 3.1.14.A* 1 person per 12 sq.ft.

Occupant load = $\frac{1400}{12}$ = 116 2/3 use 117

Assume ground floor exits

90 persons/unit of exit width 3.4.3.3.(3)*

Require at least $\frac{117}{90}$ = 1.3 units of exit width

Two exits required - high occupant load 3.3.1.5 and 3.4.2.4*

Exit width - each 36 in. minimum 3.4.3.1.(2)*

value 36 ≡ 22 + 14 ≡ 1 1/4 units exit width 3.4.3.2*

Requirement is two exit doors each 36 in. wide with remoteness and location conforming to 3.4.2.2.(1)* and 3.4.2.3.(1)*. Exit signs 3.3.1.5*, 3.4.6.1* and panic hardware 3.3.1.7.(3)* are required for each exit.

<u>Washroom Fixtures</u>

Assume separate washrooms for staff and occupants of other floor areas of the building.

Number of customers = 90
Assume 45 men, 45 women 3.6.4.2.(1)*

Use Table 3.6.4.B*
25-49 men require 3 water closets.
Urinals may be substituted for 2/3 of water closets 3.6.4.2.(2)*

For men provide 2 urinals
1 water closet
2 wash basins 3.6.4.2.(3)*

25-49 women require 3 water closets
2 wash basins 3.6.4.2.(3)*

*Reference is to Alberta Building Regulations 1974.